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EXAMINER	
BOYD, JENNIFER A	

ART UNIT	PAPER NUMBER
1771	8

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Please find below and/or attached an Office communication concerning this application or proceeding.

mk-8

Office Action Summary	Application No.	Applicant(s)	
	09/831,503	AGGARWAL ET AL.	
	Examiner	Art Unit	
	Jennifer A Boyd	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 September 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Objections

1. Claims 1 – 13 are objected to because of the following informalities: In claims 1 – 13, please change the phrase "characterized in that" to "wherein" or "comprising". In claim 2, please correct the units of the air flow resistance to "900 Nsm^{-3}" and define R1. In claims 3, 8, 10, 12 and 13, please change "PU" to "polyurethane". In claim 11, please change "PE" to "polyethylene". Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1 – 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 3, 4, 8 – 11 and 13 are rejected for being dependent on a rejected claim.

4. Claim 1 recites the limitation "*the* vehicle side", "*the* passenger compartment side", "*the* first reinforcement layer on the vehicle roof side" and "*the* second reinforcement layer" in lines 4 – 8. There is insufficient antecedent basis for this limitation in the claim. Please change the claim language to read "*a* vehicle side", "*a* passenger compartment side", "*a* first reinforcement layer on the vehicle roof side" and "*a* second reinforcement layer".

5. Claim 6 is indefinite because it is unclear whether the barrier layer contains a chemically-bonded cellulose which is mixed with polyester fibers or if cellulose and polyester fibers are chemically-bonded together. How are the fibers chemically bonded? For the sake of examination

at this time, the Examiner will interpret the claim as reading that the barrier layer comprises cellulose and polyester fibers which are bonded together by a means such as a resin.

6. Claim 7 is indefinite because it is unclear what the required wetting properties are. For the sake of examination at this time, the Examiner will interpret the claim as reading that the barrier layer is treated on the surface to create a migration-resistant layer.

7. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 2 recites the broad recitation "500Nsm^{-3} <R1 <1900 Nsm^{-3}", and the claim also recites "900 Nsm^{-3} < R1 < 1900 Nsm^{-3}" which is the narrower statement of the range/limitation. In the present instance, claim 5 recites the broad recitation "20 g/m^2 to 60 g/m^2", and the claim also recites "45 g/m^2" which is the narrower statement of the range/limitation.

8. Claim 12 is indefinite because it is unclear in the phrase "first reinforcement fibers, especially glass fibers", whether the glass fibers are positively claimed. Similarly, the use of the

term "especially" makes it unclear whether the PU foam layer is positively claimed in the phrase "a support layer, especially a PU foam layer", whether the glass fibers are positively claimed in the phrase "second reinforcement fibers, especially glass fibers" and whether the spraying is positively claimed in the phrase "then wetted, especially sprayed". For the sake of examination at this time, the Examiner will interpret the phrases in the broadest sense not giving weight to limitation after the term "especially".

9. Regarding claim 12, the phrase "for example" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d). The phrase "transported together through a bath filled with this first component (12) and first squeezing rollers (14) disposed downline, for example" and "with the aid of squeezing rollers (17), for example" will not be given any weight, since the inclusion of the phrase "for example" does not exclude other methods.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 1 – 10, 12 - 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rozek et al. (US 6,204,209) in view of Doerfling et al. (US 3,935,353).

Rozek is directed to a laminated article suitable for use as decorative sound absorbing

panels for automotive applications and are well suited for use as vehicle headliners (Abstract).

As to claim 1, Rozek teaches a laminate comprising a decorative cover sheet 22 adjacent to a reinforcing layer 20 adjacent to a rigid foam layer 14 adjacent to a second reinforcing layer 18 adjacent to a fibrous batt 12 adjacent to a third reinforcing layer 16. The decorative cover sheet 22, equated to Applicant's "air-impermeable back layer (9)", can be a nonporous cover (column 6, lines 11 – 15). The reinforcing layer 20 is equated to Applicant's "first air-permeable reinforcement layer (4)". The rigid foam layer 14 is equated to Applicant's "support layer (3)". The second reinforcing layer 18, equated to Applicant's "second air-permeable reinforcement layer (5)", is porous to a sufficient degree so it does not act as a sound reflector (column 4, lines 30 – 35). The third reinforcing layer 16 is equated to Applicant's "air-permeable decorative layer (6)". The layers of the laminate are bonded together using a resin binder, equated to Applicant's "air-permeable adhesive (7)", which is provided in an amount that does not interfere excessively with the porosity of the laminate (column 5, lines 1 – 7).

As to claim 3, Rozek teaches that the rigid foam layer 14, or "support layer (3)", can be made of a rigid urethane foam (column 7, lines 1 – 5).

As to claim 4, Rozek teaches that the reinforcing layer 20, or "first air-permeable reinforcement layer (4)", can comprise a plurality of glass fibers bonded together by a resin to form a mat (column 4, lines 59 – 65).

As to claim 6, Rozek teaches that the fibrous batt 12, or "semi-permeable and migration-resistant barrier layer (8)", can comprise a combination of natural fibers such as cotton and synthetic fibers such as polyester (column 3, lines 35 – 41). The fibers comprising the batt are preferably thermobonded or bound together by sufficient binder to bond the fibers using

binders such as water dispersed acrylic, ethylene vinyl acetate acrylic, styrene butadiene rubber, polyvinyl acetate and polyvinyl acrylic copolymer (column 3, lines 53 – 55 and column 4, lines 1-6).

As to claim 10, Rozek teaches that the adhesive (7) is an elastomeric composition comprising 100 parts by weight of a polyol having three or four hydroxyl groups, 85 parts by weight of an isocyanate compound having at least 2 reactive isocyanate groups, such as methylene-bis-phenyl isocyanate, 0.05 to 0.10 parts of a catalyst such as tin octoate or lead naphthanate, and 5 to 20 parts of solvent such as tricholorofluoromethane or methylene chloride (column 5, lines 13 – 20). Wenning (US 5,874,173) teaches that two-pack polyurethane adhesives are essentially characterized by polyisocyanates as hardeners and by predominately oligomeric diols and/or polyols as resin. Therefore, the adhesive of Rozek can be considered to be a two-pack polyurethane adhesive.

As to claim 12, Rozek teaches a variety of processes to manufacture the laminate of claim 1 (column 7, lines 29 – 68). The process limitations of claim 12 are generic in nature and the provision of the article of claim 1 would render the process limitations obvious.

Rozek fails to teach that the fibrous batt 12, equated to Applicant's "semi-permeable and migration-resistant barrier layer (8)", is a migration-resistant barrier layer as required by claim 1. Rozek fails to teach that the surface of the barrier layer is treated accordingly to achieve the required wetting properties as required by claim 7. Rozek fails to teach that the fibrous batt 12, or "semi-permeable and migration-resistant barrier layer (8)", is migration-resistant to softeners,

decomposition products used by ageing and/or additives from the polyurethane foam layer or the adhesive films as required by claims 8 and 13.

Doerfling is directed to a decorative covering material for enhancing the exterior appearance of a vehicle panel (Abstract). Doerfling teaches the use of a barrier coating or film to applied on a fabric to prevent or inhibit undesired migration of constituents to and from the adhesive film to the exterior surface of a facing sheet which may produce a discoloration or other surface imperfection therein. The barrier coating may also serve as a so-called tie coat for enhancing the strength of the initial or final bond of the adhesive coating to the underside of the facing sheet (column 4, lines 10 – 23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to treat the fibrous batt 12 in the laminate of Rozek with the barrier coating or film of Doerfling to create a migration-resistant barrier layer motivated by the desire to enhance the strength of the adhesive bond while minimizing discolorations and surface imperfections.

As to claim 2, Rozek teaches that the reinforcing layer 20, or "first air-permeable reinforcement layer (4)", can be made of glass fibers (column 4, lines 56 – 67).Although Rozek does not explicitly teach the claimed layers on the passenger compartment side has an air flow resistance of $500Nsm^{-3} < R1 < 2500\ Nsm^{-3}$, especially $900\ Nsm^{-3} < R1 < 1900sm^{-3}$, it is reasonable to presume that that passenger compartment side has an air flow resistance of $500Nsm^{-3} < R1 < 2500\ Nsm^{-3}$, especially $900\ Nsm^{-3} < R1 < 1900sm^{-3}$ is inherent to Rozek. Support for said presumption is found in the use of like materials (i.e. a laminate comprising a decorative cover sheet, reinforcing layer, a rigid foam layer, a second reinforcing layer, a fibrous batt and a third

reinforcing layer) which would result in the claimed property. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald* 205 USPQ 594. In addition, the presently claimed property of the passenger compartment side has an air flow resistance of $500Nsm^{-3} < R1 < 2500\ Nsm^{-3}$, especially $900\ Nsm^{-3} < R1 < 1900sm^{-3}$ would obviously have been present once the Rozek product is provided. Note *In re Best*, 195 USPQ at 433, footnote 4 (CCPA 1977).

As to claims 5 and 9, Rozek teaches that the fibrous batt 12, or "semi-permeable and migration-resistant barrier layer (8)", can be made of a combination of synthetic and natural fibers (column 3, lines 35 – 36) to form a fabric. Rozek fails to teach that the fabric weighs approximately 20 to 60 g/m^2 or approximately 45 g/m^2 as required by claim 5 and has a thickness of 0.2 mm to 1.0 mm, especially 0.285 mm as required by claim 9. It should be noted that the fabric weight and thickness is a result effective variable; for example, as the weight and thickness increases, the fabric becomes heavier and more rigid. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a mixed fiber fabric with a fabric weight of approximately 20 to 60 g/m^2 or approximately 45 g/m^2 as required by claim 5 and has a thickness of 0.2 mm to 1.0 mm, especially 0.285 mm as required by claim 9, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the fabric weight and thickness to create a suitably flexible and strong fabric for use in a laminate.

12. Claims 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda al. (US 4,957,797) and Doerfling et al. (US 3,935,353) in view of Blum et al. (US 4,581,432).

Maeda is directed to a roof lining structure for motor vehicles (Abstract).

As to claim 1, Maeda teaches a laminate comprising a vibration dampening layer 11, equated to "air-impermeable back layer (9)", adjacent to a covering layer 6, equated to "first air-permeable reinforcement layer (4)", adjacent to a reinforcing layer 5, equated to "support layer (3)", adjacent to a support layer 2, equated to "second air-permeable reinforcement layer (5)", adjacent to a covering layer 3 and adjacent to a decorative layer 4, equated to "air-permeable decorative layer (6)" (Figure 2). The layers of the laminate are bonded together using an adhesive, equated to Applicant's "air-permeable adhesive (7)" (column 3, lines 20-25).

Maeda fails to teach the covering layer 3, equated to Applicant's "semi-permeable and migration-resistant barrier layer (8)", is a migration-resistant barrier layer as required by claim 1.

Doerfling is directed to a decorative covering material for enhancing the exterior appearance of a vehicle panel (Abstract). Doerfling teaches the use of a barrier coating or film to applied on a fabric to prevent or inhibit undesired migration of constituents to and from the adhesive film to the exterior surface of a facing sheet which may produce a discoloration or other surface imperfection therein. The barrier coating may also serve as a so-called tie coat for enhancing the strength of the initial or final bond of the adhesive coating to the underside of the facing sheet (column 4, lines 10 – 23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to treat the covering layer 3 in the laminate of Maeda with the barrier coating or film

of Doerfling to create a migration-resistant barrier layer motivated by the desire to enhance the strength of the adhesive bond while minimizing discolorations and surface imperfections.

As to claim 11, Maeda in view of Doerfling discloses that the decorative layer 4, equated to "air-permeable decorative layer (6)", can be a nonwoven fabric (column 2, lines 65 – 67) but fails to disclose that the nonwoven comprises polyethylene.

Blum et al. teaches molded parts useful for headliners (column 16, lines 30 – 35) comprising a decorative material (column 16, lines 14 – 15). The decorative material can be a non-woven material comprising polyethylene (column 16, lines 15 – 23).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to create the decorative layer of Maeda in view of Doerfling from a polyethylene nonwoven fabric as suggested by Blum motivated by the expectation that polyethylene is high in strength and highly resistant to environmental insults such as mildew.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 703-305-7082. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Jennifer Boyd
May 1, 2003